

REMARKS

This Response and Amendment is in response to the Office Action mailed on June 4, 2003. Reconsideration of this application is respectfully requested.

Allowable Subject Matter

Applicant acknowledges, with appreciation, the allowability of Claims 13-16 if rewritten to overcome the Section 112 rejections and to include all of the limitations of the base claim and any intervening claims.

Drawings

The Office Action objected to the drawings for failing to comply with 37 C.F.R. 1.84(p)(5) because they do not include reference numerals 46 and 48 for the "cavities" mentioned in the description. To overcome this objection, Applicant submits herewith a proposed drawing correction for the Examiner's approval. In Figure 4, Applicant has changed reference numerals 50 and 170 to numerals 55 and 36, respectively, to conform to the description on page 6 of the specification.

Specification

The Office Action objected to the specification due to an error in the description of Figures 6A and 6B. As provided above, Applicant has amended the description of Figures 6A and 6B to correctly recite "Fig. 5" instead of "Fig. 4."

Further, Applicant has amended three paragraphs on page 8 of the specification to conform the description of the pressure sensor and the air detector discussed therein to

previous descriptions of the corresponding structure on page 6 of the specification. In conjunction with the above-noted proposed corrections to Figure 4 of the drawings, Applicant submits that the specification and drawings are consistent with one another.

Claim Objections

The Office Action objected to Claims 15 and 16 due to an error in claim dependency in Claim 15. As provided above, Applicant has amended Claim 15 to correctly depend from claim "14" instead of from claim "13."

Section 112 Rejections

1. The Office Action rejected Claims 1-16 and 18 under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as his invention. Applicant submits that this rejection is now moot in view of the above claim amendments.

Specifically, Applicant has canceled Claim 3 without prejudice or disclaimer and has amended Claims 1 and 18 to specify "said members." Based on the specified amendments, Applicant submits that Claims 1 and 18 are now definite and that the Section 112 rejection should be withdrawn.

2. The Office Action rejected Claims 2-7 and 10-16 under 35 U.S.C. § 112, second paragraph, as being incomplete for omitting an essential structural cooperative relationship of elements relating to the flexible tube and flexible tube segment. Applicant submits that this rejection is now moot in view of the above claim amendments.

Applicant has amended Claims 1 and 2 to specify a "flexible tube" operably disposed in the pump for delivering liquid to a patient, and further that the tube-clamping and tube squeezing members engage the flexible tube to pump liquid therethrough. In Claim 2, Applicant has specified that the flexible tube includes a drip chamber, a valve, and at least one squeezing segment defining two ends, the tube-clamping and tube squeezing members being adapted to engage the at least one squeezing segment. Based on the specified amendments, Applicant submits that Claim 2 is now definite and that the Section 112 rejection should be withdrawn.

Claim Rejections

1. The Office Action rejected Claims 1, 9 and 17 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,064,797 to Crittendon et al. ("the '797 patent"). This rejection is respectfully traversed.

Claim 1 specifies, *inter alia*, that the first tube-clamping member, the first set of tube squeezing members, the second tube-clamping member and the second set of tube squeezing members are sequentially arranged and activated to engage the flexible tube to pump liquid in a downstream direction.

As noted in the Office Action, the '797 patent discloses that the first set of pumping members (92-97) and the second set of pumping members (98-101) are arranged between the first pumping element (91) and the second pumping element (102).

Claim 17 specifies, *inter alia*, that the first and second tube-clamping members block the flexible tube and that the first and second set of tube squeezing members constrict the flexible tube. The different terms – "tube-clamping," "block," "tube

squeezing” and “constrict” – used in the claim provide different meanings to the structure, actions and/or results provided by the respective tube-clamping and tube squeezing members. This feature of the invention is also discussed in at least the following passage in the specification:

Different parameters are maintained similar to the previous embodiment, e.g., the tube blocking cam followers engage the respective tube segment so as to essentially block the tube's lumen, whilst the tube squeezing cam followers engage the respective tube segment to only partially squeeze the tube's lumen. This may be achieved by differently forming the tube-engaging surface of the cam followers, or by shortening their lengths or by different forms of the cams.

(Page 8, lines 1-6.)

The '797 patent, on the other hand, discloses that the pumping members 91-102 close the tubing 20 to provide the desired pumping action. (See e.g., Col. 5, line 40 to Col. 6, line 15.)

Based on the foregoing, Applicant submit that the '797 patent does not disclose each and every element or limitation of Claims 1 and 17, and that the rejection based thereon should be withdrawn

2. The Office Action rejected Claims 2-8, 10-12 and 18 under 35 U.S.C. § 103(a) as being unpatentable over the '797 patent in view of U.S. Patent No. 4,781,548 to Alderson et al. (“the Alderson patent”) and U.S. Patent No. 4,617,014 to Cannon et al. (“the Cannon patent”). This rejection is respectfully traversed.

Like Claim 1, Claim 18 specifies, *inter alia*, that the first tube-clamping member, the first set of tube squeezing members, the second tube-clamping member and the second set of tube squeezing members are sequentially arranged and activated to engage

the flexible tube to pump liquid in a downstream direction. As discussed above, these features are not disclosed, suggested or otherwise taught by the '797 patent.

Further, Applicant submits that the Alderson and Cannon patents also do not disclose or suggest at least these features of Claim 18. The Office Action cited the Alderson and Cannon patents for subject matter related to the administration set and the "stoppers" of the squeezing segment of the flexible tube, respectively, not to the design and arrangement of the tube-clamping and tube squeezing members.

Because the Alderson and Cannon patents do not provide or suggest the missing elements or limitations of Claim 18, Applicant submits that the combination of their teachings with that of the '797 patent does not provide Applicant's invention of Claim 18. Consequently, Applicant submits that the proposed combination of the '797, Alderson and Cannon patents does not render obvious the invention of Claim 18, and that the rejection based thereon should be withdrawn.

Further, Applicant submits that the invention of Claims 2-8 and 10-12 are allowable over the proposed combination of the '797, Alderson and Cannon patents for at least the reasons provide above with respect to Claims 1 and 18.

New Claims

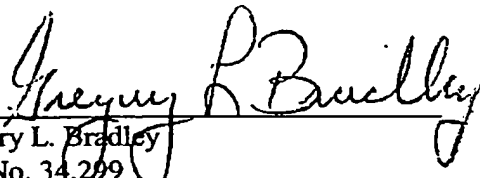
Applicant submits that new independent Claim 27 is patentable for at least the same reasons provide above with regard to Claims 1, 17 and 18. Further, Applicant submits that new Claims 19-34 are supported by the original claims, the specification and at least Figures 3A-3D of the drawings. No new matter has been added.

Conclusion

In view of the foregoing amendments and remarks, Applicants submit that the application is now in condition for allowance. Reconsideration of this application is respectfully requested.

Respectfully submitted,

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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper (along with any referred to as being attached or enclosed) is being facsimile transmitted to the U.S. Patent and Trademark Office (Fax No. 703-872-9302) on October 6, 2003

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